

ABSTRACT

The system increases a resolution of at least a portion of a reference frame of video based on pixels in the reference frame and pixels in one or more succeeding target frames of the video. Specifically, the system selects a first block of pixels in the reference frame, and then locates, in N ($N \geq 1$) target frames, one or more blocks of pixels that substantially correspond to the first block of pixels, where the N target frames are separate from the reference frame. In the particular case of MPEG-coded video, blocks in the N target frames are located using motion vector information present in the MPEG bitstream. Values of additional pixels are determined based on values of pixels in the first block and on values of pixels in the one or more blocks, whereafter the additional pixels are added among the pixels in the first block in order to increase the block's resolution.

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